
ADDITIONAL NOTES TO THE ARTICLE OF Mr. E. P. FELT ON JAVANESE GALL-MIDGES

by

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(with 9 figures).

Dasyneura elatostemmae FELT. forms its stem and leafgalls on a species of *Elatostemma*. This plant occurred in great number in the ravines of Mt. Oengaran in Central-Java; but as not a single specimen was in bloom then, I was not able to give its right name. Therefore this gall-form has not been described and taken up yet in „Einige Gallen aus Java”, in which as many as 700 different galls are described.

The galls on *Elatostemma* are mostly ballshaped or rather oblong round swellings of the stem and the main-nerve of the leaf. The petiole and the flower-stalk can also be infected. The surface is smooth and light-green in colour. Inside one can see a small larva-cell, in which the little white gall-midge larva lives. The coat of the cell consists in a very watery parenchym. See the accompanying figure. (Fig. 1.) I found the galls in very damp places on the banks of swift-flowing streams.

Mount-Oengaran, alt. 1000 M. May 7th 1910. (Herb. No. 4367).

Stefaniella falcaria FELT. forms galls on the leaves of a species of *Avicennia*, which was described by BAKHUIZEN VAN DEN BRINK as: *Avicennia marina* var. *intermedia*. On this plant I found two quite different gallmidge-galls, which have been both described by me ¹⁾. From those galls I cultivated the gall-formers which have been considered by Mr. FELT as belonging to the same species of *Stefaniella*.

1.) W. UND J. DOCTERS VAN LEEUWEN-REIJNVAAN. Einige Gallen aus Java, IIIter Beitrag. Marcellia. Vol. IX 1910. pag. 40. No: 96 and 97.

Herewith are reproductions of drawings of both galls. The first gall is a very large swelling of the main nerve of the leaf, which is equally developed on both sides of the leaf-blade (Fig. 2). The second gall which is hardly ever found is very small and flat, as can be seen from the accompanying figure; (Fig. 3). It is certainly quite remarkable that both gall-formers should belong to the same species. Since both gallforms can occur on one leaf, it is hardly possible to accept the fact that both could be formed by the same individual. Only experiments could make it clear, whether we have to deal here with one or two species. My experiments with the gallformers of the *Aulax*-galls ¹⁾ on different species of poppies (*Papaver*) and of the *Isosoma*-species on *Triticum*-plants ²⁾, have taught me that there are different sub-species which only form galls on the kinds of plants constantly infected by them.

Stefaniella orientalis FELT. This gallmidge forms galls on *Lepidagathis javanica* Bl. The gall has already been described in „Einige Gallen aus Java” ³⁾.

Lasioptera manilensis FELT. This midge forms a very commonly occurring gall on *Leea sambucina* Willd. already described in „Einige Gallen von Java” ⁴⁾. Herewith we have joined a picture of the gall which had not been figured yet. (See fig. 4). UICHANGO ⁵⁾ gives a description of a very similar gall on *Leea manilensis* Walp. of the Philippines.

Schizomyia nodosa FELT. It forms galls in the flowers of *Moschosma polystachum* Benth., which has already been described and figured of Java ⁶⁾. We stated then that the gall was formed by a gall-mite, which it is true occurred in the gall; but the original gall is a swelling of the pistil, which is quite hidden by the strongly developed calyx and corolla with the result of a balloon-shaped deformity. In the infected pistil one finds a small cell

1) J. REIJNVAAN AND W. DOCTERS VAN LEEUWEN. *Aulax papaveris*. Its biology and the development and the structure of the gall which it produces. *Marcellia* Vol. V. 1906. p. 137.

2) W. UND J. DOCTERS VAN LEEUWEN-REIJNVAAN. Ueber die Anatomie und die Entwicklung einiger *Isosoma*-Gallen auf *Triticum repens* and *juncum* und ueber die Biologie der Gallformer. *Marcellia* Vol. VI. 1907. p. 68.

3) W. UND J. DOCTERS VAN LEEUWEN-REIJNVAAN. Einige Gallen aus Java. VIII ter Beitrag. *Bull. d. Jard. Bot. d. Buitenzorg. Série III*. Vol. I. 1918. pag. 51. No. 606.

4) idem. IIter Beitrag. *Marcellia* Vol. VIII. 1909. page 104.

5) L. B. UICHANGO. A biological and systematic study of Philippine Plant Galls. *Phil. Journ. of Science*. Vol. XIV 1919. page 539. Plate IX. Fig. 1, 2 and 3.

6) W. UND J. DOCTERS VAN LEEUWEN-REIJNVAAN. Einige Gallen aus Java. IIIter Beitrag. *Marcellia*. Vol. IX 1910. pag. 52. No: 130. Fig. 57.

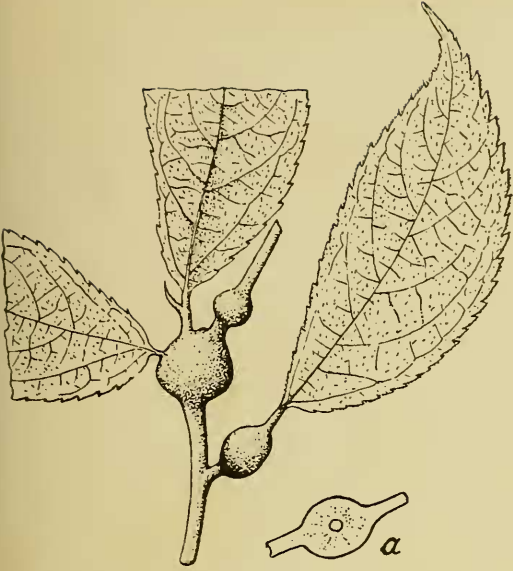


Fig. 1. Stem and petiolegalls on *Elatostemma* spec. caused by *Dasynura elatostemmae* FELT.
a. Section of a gall, nat. size.

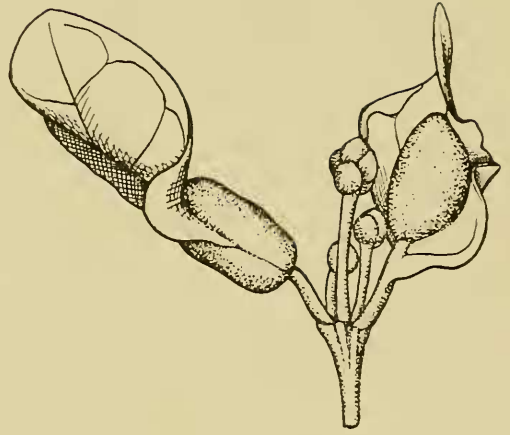


Fig. 2. Leaves of *Avicennia marina* (Forsk) Vierh. var. *intermedia* (Griff.) Batch. galled by *Stefaniella falcaria* FELT. nat. size.

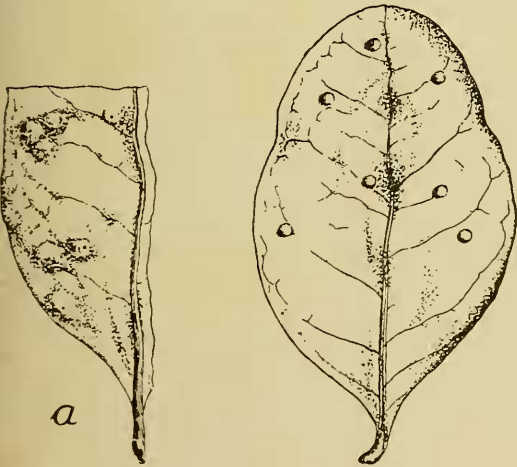


Fig. 3. Leaves of *Avicennia marina* (Forsk) Vierh. var. *intermedia* (Griff.) Batch. galled by *Stefaniella falcaria* FELT.
a. nether surface of the leaf nat. size.

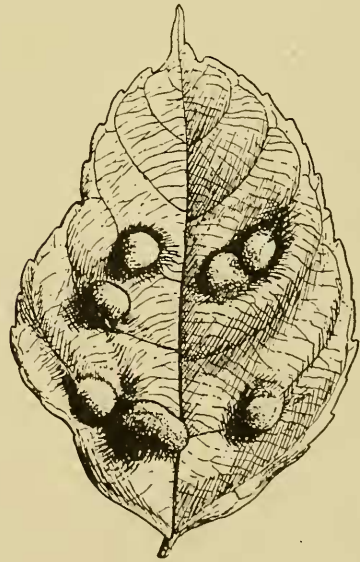


Fig. 4. Uppersurface of a leaf of *Leea sambucina* Willd. galled by *Lasioptera manilensis* FELT. nat. size.

with a gall-midge larva. This gall is very common in the dry ricefields during the East-monsoon throughout all Central-Java.

Schizomyia villebrunneae FELT. This species of gall-midge forms three different galls on *Villebrunnea rubescens* Bl. All three galls have been already described from Java. Herewith I add the pictures of the different species, by which one can see that these galls are very unlike in shape. The first

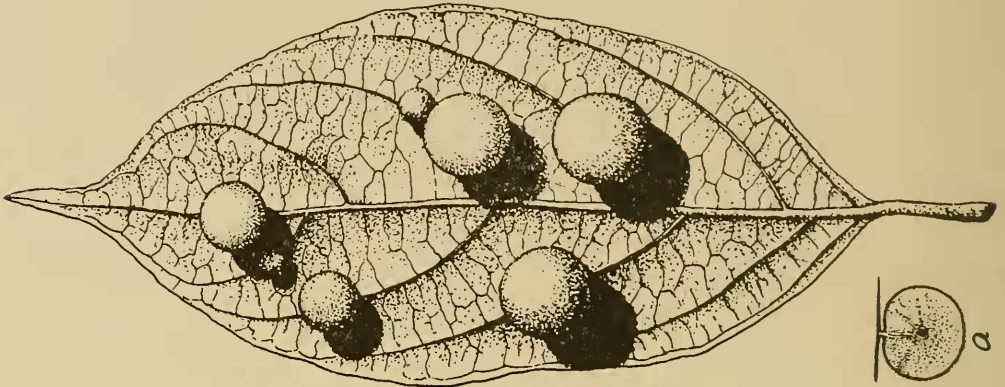


Fig. 5. Nether surface of a leaf of *Villebrunnea rubescens* Bl. galled by *Schizomyia villebrunneae* FELT.
a. Section of the gall, nat size.

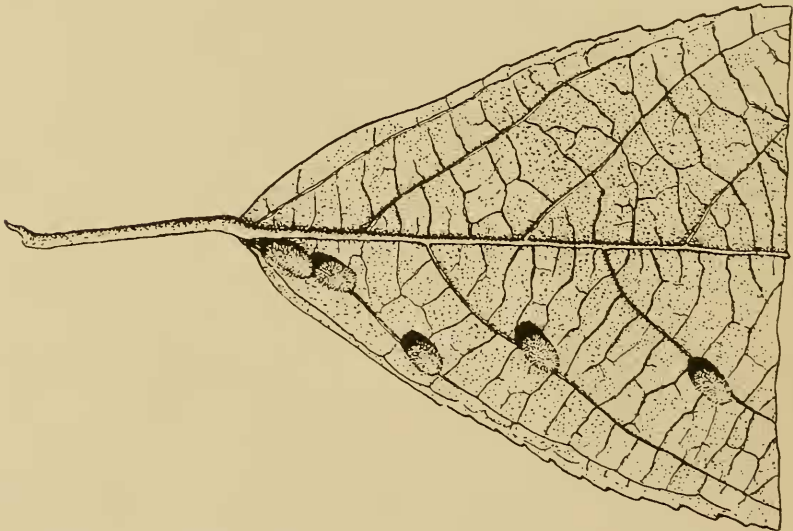


Fig. 6. Nether surface of a leaf of *Villebrunnea rubescens* Bl. galled by *Schizomyia villebrunneae* FELT. nat. size.

(Fig. 5) is quite ball-shaped and covered with very short hairlets ¹⁾. This is the largest kind, which occurs very commonly in the mountain-forests. The second kind (Fig. 6) is more oblong, smaller and covered thickly with longer hairs ²⁾. It is generally of a red colour.

The third form (Fig. 7) is very small, unpubescent but covered with a corky layer, so that its surface is gray ³⁾. Moreover the galls are often situated cross-wise on the nerves.

Re the similarity of the gall-formers, I refer to what I have already said about the case of *Stefaniella falcaria* FELT.



Fig. 7. Nether surface of a leaf of *Villebrunnea rubescens* Bl. galled by *Schizomyia villebrunneae* FELT. nat. size.

Asphondylia litseae FELT.

This gall has not been described yet. The gall itself was collected by me but got lost; the gall-formers were cultivated by me. From my annotations I see that there is a swelling of the top of the stem with several larval-chambers. It was found on *Litsea* spec. in a ravine of Mount-Oenganan, at a height of 1400 M.

1) W. UND J. DOCTERS VAN LEEUWEN-RIJNVAAN. Einige Gallen aus Java. V ter Beitrag. Marcellia Vol. X 1911 pag. 88 No: 246 Fig. 102.

2) idem. pag. 289. No: 247.

3) idem VI ter Beitrag. Bull. du Jard. bot. d. Buitenzorg. Serie II No: III. 1912 pag. 48 No. 341.

Asphondylia callicarpae FELT. This insect forms galls on the main-nerve of *Callicarpa longifolia* Lam. The gall has already been described from Java ¹⁾. Herewith we have reproduced a drawing of the misshape. See fig. 8.

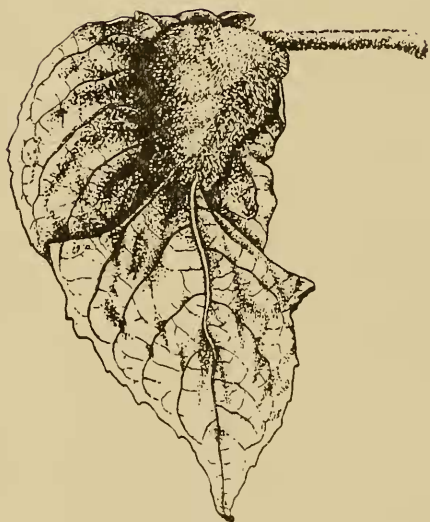


Fig. 8. Leaf of *Callicarpa longifolia* Lam. galled by *Asphondylia callicarpae* FELT. nat. size.



Fig. 9. Root of *Strobilanthes cernuus* Bl. galled by *Asphondylia strobilanthes* FELT.
a. Section of gall. nat. size.

1) W. UND J. DOCTERS VAN LEEUWEN-RIJNVAAN. Einige Gallen aus Java. VI ter Beitrag. Bull. du. Jard. bot. de Buitenzorg. Série II, No. III, 1912. pag. 16 No. 266.

The same gall was published also by UICHANGO ¹⁾ on *Callicarpa erioclona* Schauer of the Philippines.

Asphondylia strobilanthi FELT. This misshape has not been described yet. I found it in the damp ravines of Mount-Gedeh near Tjibodas. The galls are oblong ball-shaped swellings of the root-bark, which generally lie in great numbers near one another. The surface is densely covered with long white hairs. Inside there is to be found a spacious larval-chamber with a big larva. The wall is thick and of a lightgreen colour. This gall is 5 m.M. long and 3½-4 m.M. thick. A picture of this remarkable gall is added here by; see figure 9. DR. KOORDERS ²⁾ mentions this same misshape in his Flora of Tjibodas, where it is fairly common.

Tjibodas, alt. 1600 M. 25/XII 1918 (Herb. 3081).

1) L. B. UICHANGO. A biological and systematic study of Philippine plantgalls. Phil. Journ. of Science. Vol. XIV. 1912. page 536. Plate X. Fig 2.

2) S. H KOORDERS. Flora von Tjibodas. Lief. IV. 1918. Batavia.